

Notes from the 08/01/06 MI BPM Upgrade Meeting
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These notes can be found in Beams docDB #1526.

Agenda as announced:

- Project announcements - Steve and Bob
- MI operation status - Dave
- Discussion of recent installations:
 - MI60N, MI10, MI50
 - Cable replacement, recrimping
- Remaining work:
 - Transition board controller status - Stefano
 - Board by board gain control - Stefano
 - Recalibrated transition board status
 - Gain settings for 53 MHz - Bob Dysert
 - Diagnostic mode
 - Extra Wide aperture test data analysis - Milton Smith
 - Extra Wide aperture sum signal position sensitivity - Bob W.
- Software - Steve, Luciano, Brian
- Validation
- AOB

- The official installation order is:

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*   MI40, MI30, MI20, MI60S, MI60N, MI10, MI50   *
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0. Announcements.

- The project will focus on providing required functionality now that the hardware is (almost) all installed.

- Some changes to the CEPA department in CD. Guilherme Cardoso takes over as ESE leader (from Vince). The ESE section now consists of 3 groups led by Bill Haynes, Guilherme Cardoso and Vince Pavlicek. Bob Forster has moved to the CCF department in CD.

1. MI operation status - Dave

- There is one more system to install - MI50. The MI department gives the go-ahead as long as sufficient cables are available. Marv assures us that cables are available.

- Some question about whether there is anything special/tricky about

MI50. Brian assures us that it should work fine. The extra views in the Extra Wide Aperture BPMs (in all buildings) will be enabled after the system is up and running properly.

- There is a question about MI10 at location 102. The bumps seem to indicate that this is a Wide Aperture BPM and that needs to be verified.

- Dave is having some trouble rebooting the VME crates using D31. The ACL scripts seem to work but there is some confusion about the messages received.

- Dave is working on exercising all the modes. So far most work. There is some problem with closed orbit measurements in one of the modes. Also some concern about gain (Echotek) that may be related.

- Still needs to look at short batch and coalesced beam.

- Do we have the seam and timing worked out properly? Still needs to be looked at. Maybe Ming-Jen can work on that.

- Is the system reliable? Yes. Does the resolution look reasonable? Maybe Ming-Jen can give us a status on that. Is the system being used to do anything that was not possible with the old system? Yes. Some use in reverse injection, MI8 line, other.

- Some problems occurred while cables were being replaced during the past couple of weeks. Crate reboots cleared it up.

- Alarms** Still needs specification and implementation.

2. Discussion of recent installations:

MI60N, MI10, MI50

Cable replacement, recrimping

- MI60N was a difficult installation. Some problems with BLMs after the install. Cabling problems on the top of the racks. Some confusion/mistakes with the wiring harness on the analog crate.

- MI10 install was smooth.

- The service buildings are quite hot in some cases and the crates are overheating on occasion. This looks like a good candidate for alarms.

- So far the BLMs have been installed in MI30 and MI40.

3. Remaining work:

Transition board controller status - Stefano
Board by board gain control - Stefano
Recalibrated transition board status
Gain settings for 53 MHz - Bob Dysert
Diagnostic mode
Extra Wide aperture test data analysis - Milton Smith
Extra Wide aperture sum signal position sensitivity - Bob W.

- All transition boards have been recalibrated. 6 boards still have some problems but there are enough spare for the immediate future.

- Stefano is working on the single board addressing and readback. The estimate is that all modifications will be available and tested by the middle of August. Installation can begin after that, with at least one hour to actually do the installation and then some time to verify that everything still works. Each crate would effectively go "offline" during this time. The work and scheduling will be coordinated with Dave.

- Front-end software and ACNET will have some changes to accommodate these changes**. At a minimum Manfred, Stefano, Steve and Brian will have to be involved.

- 53MHz gain settings talk will occur next week.

- Bob Dysert showed some data on RF power showing up in BPM measurements (likely through the cables). His slides can be found in beams-doc-2370. A small number of BPMs show big signals from the RF and this does affect the position measurement. Possible solutions include removing the contribution in the calculation of position and replacing the cables at those few locations where this is a significant problem.

- Bob Webber mentioned that the Echotek skip was re-set (along with Steve) last Friday.

- The Extra-Wide BPM scaling has been re-checked and found to be consistent. It turned out to be a geometry issue that affected how the expected shift was calculated.

- Bob Webber and Milton Smith worked on the tests stand data for the extra wide BPMs. Milton was not available to give the talk but the results will be inserted into the beams docDB.

- Bob Webber gave a presentation (found in beams-docdb-2371) that explores the position dependence of the sum signal in the extra wide BPMs. Bob used the test stand measurements to check the behavior of the data and everything seems consistent - no problems seen.

4. Software - Steve, Luciano, Brian

- Steve has rewritten the FTP code to allow plotting as a function of frequency.
- Another bit of unfinished business is the test signal/diagnostics required for debugging and maintaining the system.** A subgroup, including Marv, Manfred and others will have to examine the requirements and implementation of such an application, using NUMI application as a starting point.

5. AOB

- None.